Met Office 3-month Outlook

Period: March – May 2018 Issue date: 22.02.18

The forecast presented here is for March and the average of the March-April-May period for the United Kingdom as a whole. The forecast for March will be superseded by the long-range information on the public weather forecast web page (www.metoffice.gov.uk/public/weather/forecast/#?tab=regionalForecast), starting from 2 March 2018.

This forecast is based on information from observations, several numerical prediction systems and expert judgement.

SUMMARY – TEMPERATURE:

For March, below-average temperatures are more likely than above-average temperatures. The likelihood of impacts from cold weather during March is greater than normal. For March-April-May as a whole, below-average temperatures are marginally more likely than above-average temperatures.

Overall, the probability that the UK-average temperature for March-April-May will fall into the coldest of our five categories is around 20% and the probability that it will fall into the warmest of our five categories is between 15 and 20% (the 1981-2010 probability for each of these categories is 20%).

CONTEXT:

La Niña continues in the tropical Pacific but is likely to begin to decay in the coming weeks and become neutral by the end of spring. In early spring, however, La Niña moderately increases the chances of the positive phase of the North Atlantic Oscillation (NAO), and thereby increases the chances of mild conditions in the UK.

The Madden-Julian Oscillation (MJO) is an area of enhanced thundery activity that moves eastwards through the tropics over a period of several weeks. It has recently been very active across the Pacific and is likely to have been a cause of the Sudden Stratospheric Warming (SSW) event that occurred around 12th February. SSW events are a disruption of the normal westerly winds in the stratosphere and substantially increase the chances of a negative phase of the NAO approximately 2-8 weeks afterwards. This gives an increased chance of colder-than-average temperatures in the first half of the 3-month period. The MJO is forecast to move into a phase that would promote less negative NAO, and less cold, conditions in mid-March.

For March, the Met Office long-range prediction system shows an increased likelihood of negative NAO conditions consistent with a response to the SSW. This leads to a higher-than-usual likelihood of cold or very cold weather, with an increased chance of impacts from frost and snow. Shorter-range Met Office forecasts already show a period of notably cold weather starting in the week commencing Sunday 25th February. This cold spell is likely to persist at least into the first part of March, but even if temperatures then recover the SSW influence continues to increase the chance of further cold spells. Similarities with March 2013, which brought widespread snow impacts following an SSW event, are evident. The outlook suggests that a March as cold as in 2013 is realistically possible, even if less extreme cold outcomes are more likely (see left-hand graph of figure T2).

For March-April-May overall, the Met Office long-range prediction system shows a slight increase in the chances of below-average temperatures compared to normal (see right-hand graph of figure T2). A significant contribution to this signal comes from the SSW-related increase in the likelihood of colder-than-average conditions in the first half of the period.

Fig T1

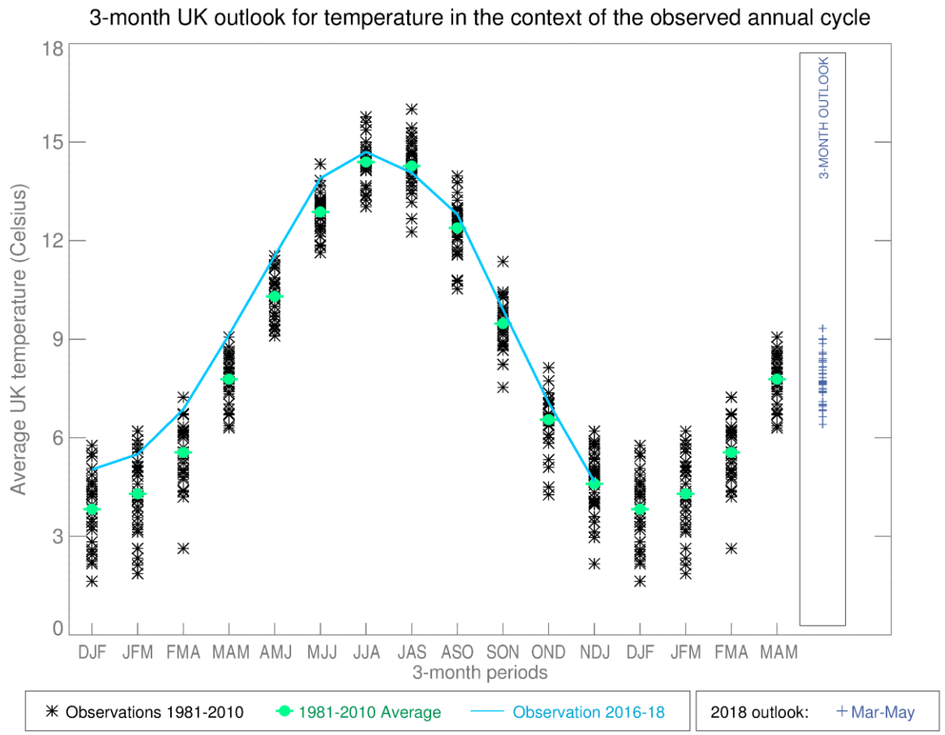

3-month UK outlook for temperature in the context of the observed annual cycle
Average UK temperature (Celsius)
3-month periods
DJF JFM FMA MAM AMJ MJJ JJA JAS ASO SON OND NDJ DJF JFM FMA MAM
3-MONTH OUTLOOK
Observations 1981-2010
1981-2010 Average
Observation 2016-18
2018 outlook: Mar-May

Fig T2

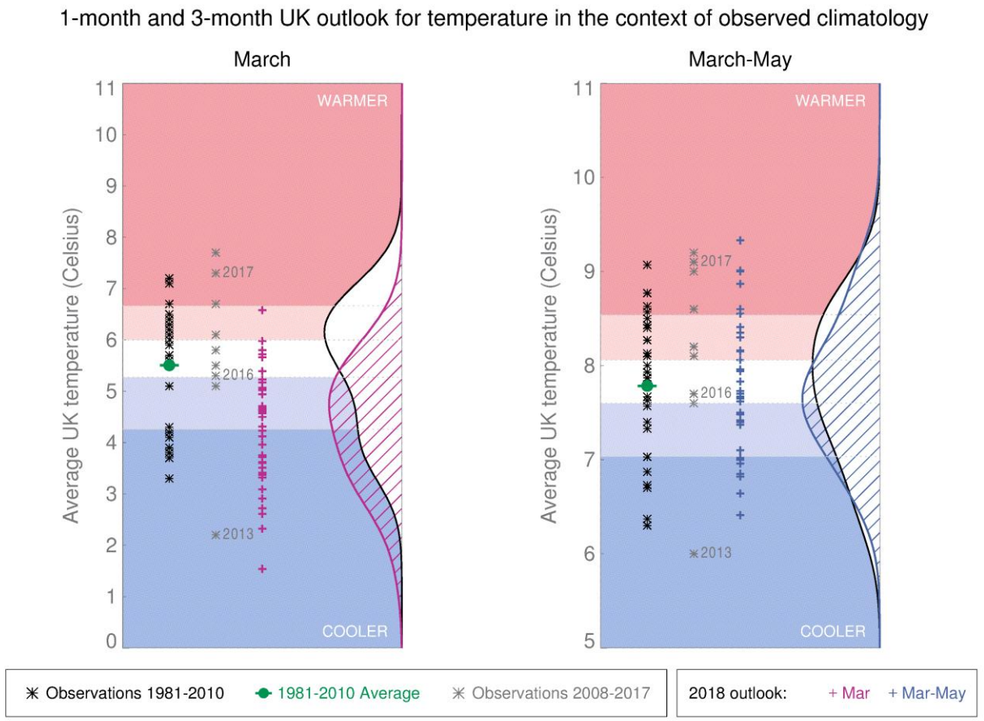
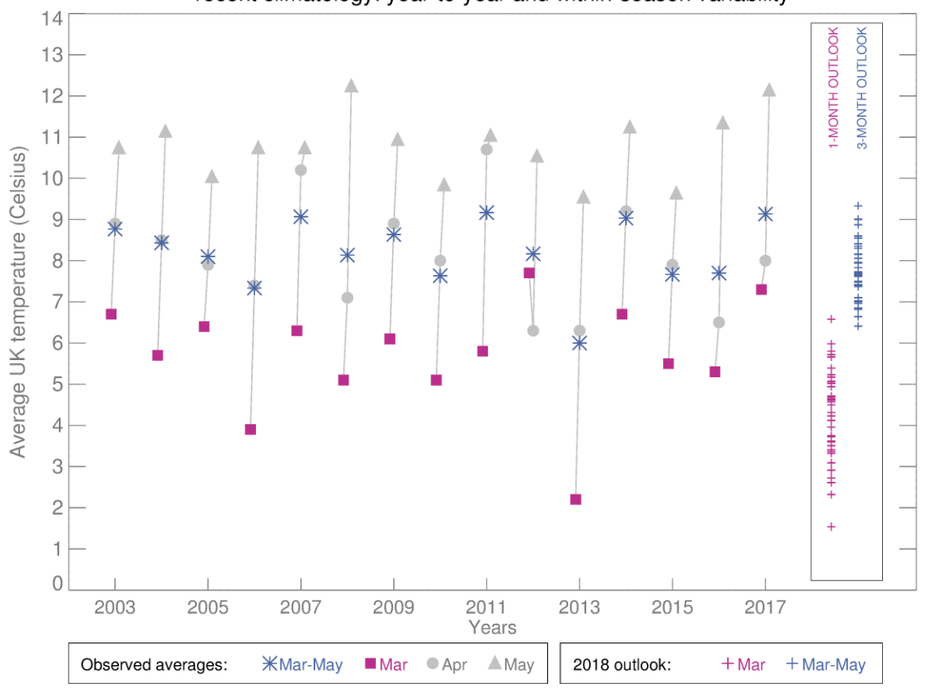


Fig T3


1-month and 3-month UK outlook for temperature in the context of recent climatology: year-to-year and within-season variability
Average UK temperature (Celsius)
Years
1-MONTH OUTLOOK
3-MONTH OUTLOOK
Observed averages: Mar-May Mar Apr May
2018 outlook: Mar Mar-May

This Outlook provides an indication of possible temperature and rainfall conditions over the next 3 months. It is part of a suite of forecasts designed for contingency planners.

The Outlook should not be used in isolation but should be used with shorter-range and more detailed (30-day, 15-day and 1-to-5-day) forecasts and warnings available to the contingency planning community from the Met Office.